

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 17-37 are currently pending in the present application, Claims 1-16 having been previously canceled, and Claims 17-23, 25, and 27-32 having been amended by way of the present amendment. No new matter has been added.<sup>1</sup>

In the outstanding Office Action, Claims 27 and 30-32 were objected to due to informalities; Claims 17-22, 30, 31, and 36 were rejected under 35 U.S.C. § 103(a) as unpatentable over Caullet et al. (EP 0266229, hereinafter “Caullet”) in view of Crumley et al. (U.S. Pat. No. 4,429,301, hereinafter “Crumley”); and Claims 23-29, 32-35, and 37 were rejected under 35 U.S.C. § 103(a) as unpatentable over Caullet in view of Crumley and in further view of Eventoff (U.S. Pat. No. 4,810,992, hereinafter “Eventoff”).

Regarding the objection to Claims 27 and 30-32, these claims have been amended as suggested on page 2 of the Office Action to correct the typographical errors therein. Thus, the objection to Claims 27 and 30-32 is believed to be overcome.

Claim 17 has been amended to clarify that the data input device includes plural keys, the keys being arranged in at least two rows, and *a plurality of unidirectional position detectors, each unidirectional position detector being associated with a respective row of keys*, each unidirectional position detector including a first input connection, a second input connection, and an output connection.

An advantage of the claimed invention is that the unidirectional position detectors make it possible to detect the position of a force applied to a keyboard, and, thus to identify the key that is activated in a particular row. Accordingly, the unidirectional position detector makes it possible to identify an X coordinate of a force acting on a keyboard.

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<sup>1</sup> Support for the amendments to Claim 17 is found in the specification at least on page 3.

Caullet describes a key pad including a plurality of keys that are arranged in at least two rows, as seen in Fig. 3. However, unlike the claimed invention, a single position detector is associated with all of the rows of keys in Caullet. Further, page 3, lines 60-61, of Caullet states “If the key of the keypad are disposed in a matrix configuration, in rows and columns, the first and second conductors are meandering,” as illustrated in Figs. 4, 6, 13 and 14.

Hence, Caullet does not disclose or suggest “a plurality of unidirectional position detectors, each unidirectional position detector being associated with a respective row of keys,” as recited in amended Claim 17.

Crumley describes a crossbar switch array with a first, horizontal linear conductor having resistors thereon and connection points to vertical crossbar conductors. The switch array in Crumley comprises a vertical linear conductor having resistors thereon and connection points to horizontal crossbar conductors. According to Crumley, all resistors of the first linear conductor have an identical resistance value. Indeed, Crumley describes that the intersections of vertical crossbar conductors and horizontal crossbar conductors define switches.

Therefore, Crumley does not disclose or suggest “a plurality of unidirectional position detectors, each unidirectional position detector being associated with a respective row of keys,” as recited in amended Claim 17.

Moreover, regarding the statement on page 3 of the Office Action that it would have been obvious at the time of the invention for one of ordinary skill in the art to combine Crumley and Caullet, Applicants respectfully disagree. In order to provide a readout device for keys that are arranged in a matrix configuration, Caullet uses a meandering position sensor. However, the means for decoding a switch array in Crumley follows a very different approach. Indeed, although Caullet and Crumley may belong to the same technical field and may even serve the same purpose, one of ordinary skill in the art would have considered the

teaching of Crumley as totally incompatible with that of Caullet, in particular since Crumley does not provide any obvious advantage over Caullet. Assuming *arguendo* that Crumley and Caullet could be combined, one of normally skilled in the art would not have arrived at the claimed invention, since neither Crumley nor Caullet discloses nor reasonably suggests “a plurality of unidirectional position detectors, each unidirectional position detector being associated with a respective row of keys,” as argued above.

M.P.E.P. § 2143.03 requires, to establish a case of *prima facie* obviousness, that all words in a claim must be considered in judging the patentability of the claim against the prior art. Further, M.P.E.P. § 2123 I states that a reference may be relied on for all it would have reasonably suggested to one having ordinary skill in the art, including non-preferred embodiments.

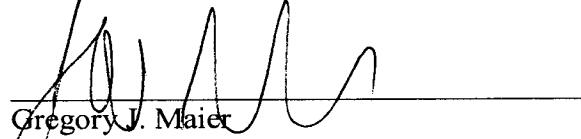
Therefore, Applicant respectfully submits that the Official Action has failed to produce a *prima facie* case of obviousness. Accordingly, independent Claim 17 is believed to be patentable over Caullet and Crumley. Dependent Claims 18-22, 30-31, and 36 are submitted to patentably define over the applied references by virtue of at least their dependency on Claim 17.

With regard to the rejection of Claims 23-29, 32-35, and 37 as unpatentable over Caullet in view of Crumley and in further view of Eventoff, it is noted that Claims 23-29, 32-35, and 37 are dependent from Claim 17, and thus are believed to be patentable for at least the reasons discussed above. Further, it is respectfully submitted that Eventoff does not cure any of the above-noted deficiencies of Caullet and Crumley. Accordingly, it is respectfully submitted that Claims 23-29, 32-35, and 37 are patentable over Caullet, Crumley, and Eventoff.

Consequently, in view of the present amendment and in light of the above discussions, the outstanding grounds for rejection are believed to have been overcome. The application as amended herewith is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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